

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-001101**Date Inspected:** 31-Dec-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 930**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

The Caltrans Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the Orthotropic Box Girders (OBG).

Bay 7 OBG:

The QA Inspector randomly observed ZPMC welder Ren Jinzhu ID Number 044837, utilizing the Shielded Metal Arc Welding (SMAW) Process with ZPMC approved Weld Procedure Specification (WPS) WPS-B-P-2112 in the 2F position to tack weld Flange Plate X7M to Floor Beam Web FB008-04 at Weld Joint (WJ) FB008-04-009. The QA Inspector randomly observed ZPMC CWI Cui Yi Ru, monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: welding amperage 170 amps, welding voltage 23 volts with a travel speed of 125 millimeters (mm) per minute. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welders Yuan Wensong ID Number 055491 and Hong Shuili ID Number 044815, utilizing the Flux Cored Arc Welding (FCAW) Process with ZPMC approved WPS in the 2F position to weld Stiffener X2J to Floor Beam Web FB002-04 at WJ FB002-04-013, 014. Mr. Yuan and Mr. Hong were welding the areas of WJ's FB002-04-013, 014 inaccessible with the Hitronic HIT-18-1D Units. The QA Inspector randomly observed ZPMC CWI Cui Yi Ru monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: welding amperage 296 amps, welding voltage 29.7 volts with a travel speed of 433 mm per minute for Mr. Hong on WJ FB002-04-013 and 297 amps, 29.6 volts with a travel speed of 433 mm per minute for Mr. Yuan on WJ FB002-04-014. The weld parameters

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## WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

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appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Yang Xuhe ID Number 057795, utilizing the SMAW Process with ZPMC approved WPS WPS-B-P-2112 in the 2F position to tack weld Stiffener X2E to Floor Beam Web FB016-01 at WJ's FB016-01-011, 012, 015, 016, 017 and 018. The QA Inspector randomly observed ZPMC CWI Cui Yi Ru, monitoring weld parameters. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welder Huang Xinlan ID Number 044780, utilizing the Submerged Arc Welding (SAW) Process with ZPMC approved WPS WPS-B-T-2221-B-L2c-S-1 in the 1G position to weld the fill and cover pass in Floor Beam Sub-Assembly FB026-02 at WJ FB026-0-078. The QA Inspector randomly observed ZPMC CWI Wu Ming Kai monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: welding amperage 530 amps, welding voltage 30 volts with a travel speed of 440 mm per minute. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welder Wang Min ID Number 048296, utilizing the SAW Process with ZPMC approved WPS WPS-B-T-2221-B-L2c-S-1 in the 1G position to weld the fill and cover pass in Floor Beam Sub-Assembly FB026-01 at WJ FB026-01-101. The QA Inspector randomly observed ZPMC CWI Wu Ming Kai monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: welding amperage 540 amps, welding voltage 30.8 volts with a travel speed of 415 mm per minute. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welder Huang Xinlan ID Number 044780, utilizing the Submerged Arc Welding (SAW) Process with ZPMC approved WPS WPS-B-T-2221-B-L2c-S-1 in the 1G position to weld the fill and cover pass in Floor Beam Sub-Assembly FB026-02 at WJ FB026-0-079. The QA Inspector randomly observed ZPMC CWI Wu Ming Kai monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: welding amperage 530 amps, welding voltage 31 volts. Travel speed was not recorded. The weld parameters appeared to comply with contract requirements.

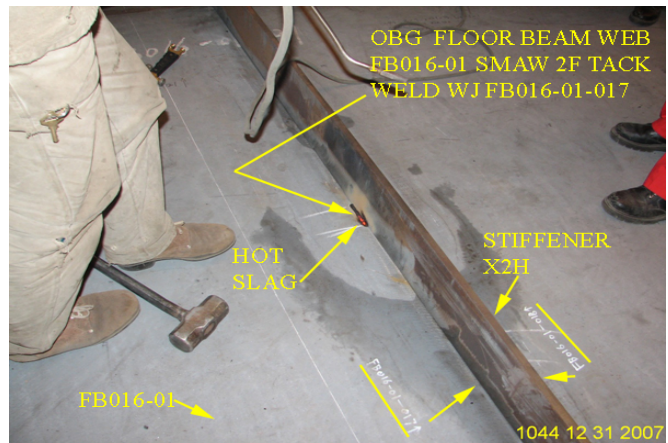
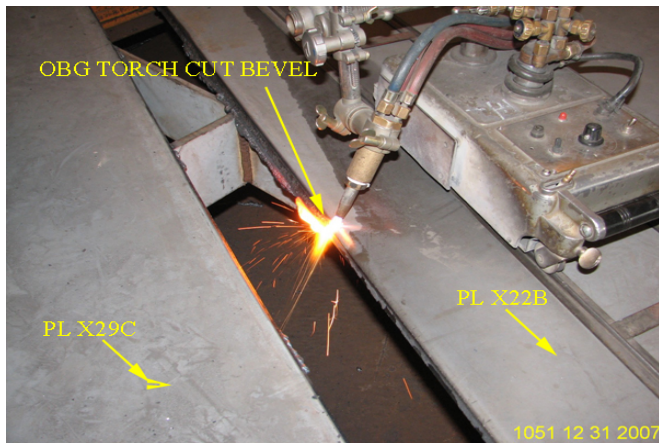
The QA Inspector randomly observed ZPMC Torch Cutting Operator Shi Gui Ju, utilizing a track mounted Long Wai Semi Automatic Torch Cutting Apparatus, to cut the bevel on Floor Beam Plate X22B. The attached photograph provides additional detail.

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# WELDING INSPECTION REPORT

( Continued Page 3 of 3 )

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## Summary of Conversations:

There were no relevant conversations.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

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**Inspected By:** Franco,Charlie

Quality Assurance Inspector

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**Reviewed By:** Cochran,Jim

QA Reviewer